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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,736	12/05/2003	Vittorio Castelli	YOR920030355US1 (8728-642)	1339
46069 7590 05/21/2008 F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797			EXAMINER DAO, THUY CHAN	
			ART UNIT 2192	PAPER NUMBER
			MAIL DATE 05/21/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/729,736	Applicant(s) CASTELLI ET AL.	
	Examiner Thuy Dao	Art Unit 2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-18 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on February 25, 2008 has been entered.

2. Claims 1, 4-18, and 20 have been examined.

Response to Amendments

3. In the instant amendments, claims 1, 4-10, 18, and 20 have been amended; claims 2 and 3 have been canceled.

Response to Arguments

4. Applicants' arguments have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections – 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4-18, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by "Programming by Demonstration: a Machine Learning Approach" to Tessa Lau, published 2001 (art made of record, hereafter "Lau").

Claim 1:

Lau discloses a machine-readable storage medium and *a method for generating one or more computer-executable procedures, comprising the steps of:*

recording at least one trace of at least one instance of a procedure, wherein the at least one trace comprises a plurality of steps (e.g., pp. 38-39, Figure 4.1, recording a plurality of traces of a procedure in SMARTedit such as removing tags and all text inside comments of a HTML file, wherein each trace comprises a plurality of user actions such as copying, pasting, cutting, positioning cursor, selecting regions);

simultaneously performing an alignment and generalization of the plurality of steps (e.g., pp. 39-40, Figures 4.2 and 4.3, recording and aligning traces (sequence of user actions) and generalizing them as training examples for SMARTedit),

wherein the alignment identifies and aligns steps that are equivalent once generalized (e.g., page 40, once generalized, each procedures (training example) consists of a sequence of identified and aligned steps (user actions)),

wherein simultaneously performing the alignment and generalization of the at least one trace further comprises computing a set of possible alignments and generalizations of the at least one trace (e.g., page 30, section 3.6.4 "Probabilistic models" computing probability), and

selecting an alignment and a generalization from the set of possible alignments and generalizations according to an alignment-generalization functional that determines a rate at which the steps of the procedure are correctly predicted for the set possible alignments and generalizations (e.g., page 40, SMARTedit selecting an incorrect guess with 36% probability, page 41, SMARTedit selecting a correct guess with 93% probability); and

generating the one or more computer-executable procedures consistent with a selected alignment and generalization (e.g., pp. 85-86, SMARTedit reaching 100% accuracy and generating a correct procedure from a plurality of traces/training examples).

Claim 4:

The rejection of claim 1 is incorporated. Lau also discloses *the alignment-generalization functional selects an alignment having a greatest number of correctly predicted steps according to a procedure model* (e.g., page 41, SMARTedit selecting a correct guess with 93% probability).

Claim 5:

The rejection of claim 1 is incorporated. Lau also discloses *the alignment-generalization functional selects a generalization having a greatest number of correctly generalized steps according to a procedure model* (e.g., pp. 85-86, SMARTedit reaching 100% accuracy and generating a correct procedure from a plurality of traces/training examples).

Claim 6:

The rejection of claim 1 is incorporated. Lau also discloses *the alignment-generalization functional is a monotonically increasing function of an alignment functional and a generalization functional* (e.g., page 86, Figure 6.6).

Claim 7:

The rejection of claim 6 is incorporated. Lau also discloses *the monotonically increasing function selects the alignment and the generalization from the set of possible alignments and generalizations that maximized a linearly increasing function of the alignment functional and the generalization functional* (e.g., page 86, Figure 6.6 with a specific number of training examples, SMARTedit chooses the highest accuracy probability over 25 runs).

Claim 8:

The rejection of claim 1 is incorporated. Lau also discloses *the alignment-generalization functional is maximized using an optimization technique* (e.g., pp. 39-40, SMARTedit iteratively predicts and receives feedback from user).

Claim 9:

The rejection of claim 8 is incorporated. Lau also discloses *applying the optimization technique iteratively* (e.g., page 41, SMARTedit iteratively tries another guess).

Claim 10:

The rejection of claim 9 is incorporated. Lau also discloses *the optimization technique is a gradient-descent technique* (e.g., page 44, Figure 4.7, SMARTedit uses a version space as a gradient-descent technique).

Claim 11:

The rejection of claim 1 is incorporated. Lau also discloses *simultaneously performing an alignment and generalization of the at least one trace further comprises the steps of: computing an initial alignment and generalization of the at least one trace; generating a procedure model of the initial alignment; and computing a best alignment and generalization of the procedure model* (e.g., page 69, Figure 5.3, computing by iterating).

Claim 12:

The rejection of claim 11 is incorporated. Lau also discloses *repeating the steps of determining the initial alignment, generating the procedure model, and determining the best alignment until a local optimum is detected* (e.g., pp. 85-86, SMARTedit reaching highest accuracy by iteratively runs a number of training examples).

Claim 13:

The rejection of claim 11 is incorporated. Lau also discloses *generating a procedure model of the initial alignment comprises generating a Hidden Markov Model of the initial alignment* (e.g., page 36).

Claim 14:

The rejection of claim 13 is incorporated. Lau also discloses *generating a Hidden Markov Model of the initial alignment comprises generating an Input/Output Hidden Markov Model of the initial alignment* (e.g., pp. 76-77).

Claim 15:

The rejection of claim 1 is incorporated. Lau also discloses *simultaneously performing an alignment and generalization of the at least one trace further comprises the steps of: determining an initial alignment and generalization of the at least one trace; generating a transition model and an action model of the initial alignment and generalization; and determining a best alignment of the transition model and the action model* (e.g., pp. 39-42).

Claim 16:

The rejection of claim 15 is incorporated. Lau also discloses *repeating the steps of determining the initial alignment, generating the transition model and the action model, and determining the best alignment until a convergence is detected* (e.g., page 85-86).

Claim 17:

The rejection of claim 15 is incorporated. Lau also discloses *generating a transition model and an action model of the initial alignment and generalization comprises generating a transition model for at least one node and an action model for the at least one node*(e.g., page 81, section 6.4.2).

Claim 18:

Claim 18 recites the same limitations as those of claim 1, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claim, it also teaches all of the limitations of claim 18.

Claim 20:

Lau discloses *a method for generating one or more computer-executable procedures, comprising the steps of:*

recording a state of a computer system (e.g., page 38, SMARTedit as a computer software system; page 64, states of SMARTedit as text buffer, cursor location, clipboard contents, selection regions);

recording at least one trace of user actions that change the state of the computer system (e.g., page 39, Figure 4.1, recording a SMARTedit procedure);

performing an alignment of a plurality of user actions of the at least one trace to at least a second trace to determine a plurality of aligned user actions (e.g., pp. 39-40, Figures 4.2 and 4.3; page 64, a collection of training examples as sequences of traces to determine a plurality of aligned user actions),

wherein the alignment identifies and aligns steps that are equivalent once generalized (e.g., page 40, once generalized, each procedure (training example) consists of a sequence of identified and aligned user actions);

performing a generalization of the plurality of aligned user actions to determine a plurality of generalized and aligned user actions (e.g., pp. 40-41, SMARTedit learns a plurality of training examples);

selecting a generalized and aligned user action to represent a respective user action of the at least one trace using an alignment-generalization functional that determines a rate at which a selected generalized and aligned user action correctly predicts user actions of the trace (e.g., page 40, SMARTedit selecting an incorrect guess with 36% probability; page 41, SMARTedit selecting a correct guess with 93% probability); and

generating the one or more computer-executable procedures executable by the computer system consistent with the selected generalized and aligned user action (e.g., pp. 85-86, SMARTedit reaching 100% accuracy and generating a correct procedure from a plurality of traces/training examples).

Conclusion

Art Unit: 2192

7. Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone/fax numbers are (571) 272 8570 and (571) 273 8570, respectively. The examiner can normally be reached on every Tuesday, Thursday, and Friday from 6:00AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Thuy Dao/

Examiner, Art Unit 2192

/Tuan Q. Dam/

Supervisory Patent Examiner, Art Unit 2192